

TITLE: HAND AND FOOT EXERCISER

BACKGROUND OF THE INVENTION:

1) Field of the invention:

The present invention relates to a mechanical apparatus for making different exercises on the ground and, more particularly, to an apparatus having a rigid frame covered with a motionless cushion and which allows a user to make different exercises on the ground by engaging to a wrist or ankle from the user a belt joined to a steel wire being pulled down in the desired direction.

2) Description of the related art:

It has been recognized as desirable to provide a mechanical apparatus for exercising the muscles in general.

A search of prior art records has unveiled the following patents:

1. US 2,436,987 issued in 1948 to Bailleaux; and
2. US 3,117,782 issued in 1964 to Johnston.

The patent issued in 1964 to Johnston is probably the most relevant. As can be seen, the problem encountered with use of the physical exercise apparatus to Johnston is that, the tension of the steel wires is not adjustable when the user makes different exercises on the ground, and the longitudinal structure is not adjustable at different positions.

To overcome the above-mentioned problem, in accordance with the teachings of the invention, there is disclosed hand and foot exerciser, which

is relatively simple and economical to manufacture.

Summary of the invention:

In accordance with the present invention, the mechanical apparatus having a rigid frame covered with a motionless cushion and which allows the user to make different exercises on the ground by engaging to a wrist or ankle from the user a belt joined to a steel wire passing without friction inside a vertical bar that is engaged on each side of a pulley and blocked at a desired position by a metal pin, and around a pulley being engaged inside a rotary part to allow the steel wire to be pulled down in the desired direction.

Brief description of the several views of the drawing(s):

The foregoing and other objects, advantages and characterizing features of the present invention will become clearly apparent from the ensuing detailed description of illustrative embodiments thereof, taken together with the accompanying drawings wherein like reference numerals denote like parts in the different figures:

Figure 1 is a perspective view of the mechanical apparatus allowing to make different exercises on the ground.

Figure 2 is a profile view of the vertical bar curved having at its superior end an adjustable rotary part provided with a small pulley by which a steel wire is pulled down without friction in several directions.

Figure 3 is a profile view showing the vertical bar fixed to a desired position.

Figure 4 is a top view of the mechanical system from the apparatus.

Figure 5 is a top view of the mechanical system from the apparatus showing the spring of the figure 4 in a different position.

Figure 6 is a profile view of the mechanical system allowing to adjust the tension of the spring at a desired position.

Figure 7 is a profile view of the main large pulley fixed to a transversal bar connected to the frame from the mechanical apparatus.

Figure 8 is a profile view of the main large pulley allowing to the steel wire to turn two times around of the pulley by giving an effect of pulley's arc.

Figures 9a, b, c and d, are the side elevational views of the mechanical apparatus, and showing the user and the vertical bar in different positions.

Detailed description of the invention:

Referring more specifically to figs. 1 through 8, the present invention is a mechanical apparatus having a rigid frame (10) covered with a motionless cushion (16) and which allows a user to make different exercises on the ground by engaging to a wrist or ankle from the user a belt (17) joined to a steel wire (5) being fixed at one end of a bar (1) and turning two times around of a main large pulley (4) by giving an effect of pulley's arc.

Further, the main large pulley (4) is fixed to a transversal bar (18) being joined to a frame (10) of the mechanical apparatus.

Moreover, the steel wire (5) passes without friction around a first pulley (2) being fixed to the frame (10) and to a second pulley (2) being

connected to a part (19) having small holes and being mounted to the frame (10).

Still, the steel wire (5) passes inside a vertical bar (11) and around of a pulley (13) being mounted to a rotary part (12) turning freely in all directions to allow the steel wire (5) to be pulled down in the desired direction.

The vertical bar (11) is engaged of each side of the first pulley (2) being mounted to the frame (10) and blocked by a metal pin (14) into a small hole being formed with the part (19) for adjusting the vertical bar (11) at the desired position.

Referring more specifically to fig. 6, it is shown a perforated frame (3) in semi-circle that permits by means of a metal pin (9) to adjust the tension of a spring (6) fixed to the bar (1) joined to a side of the frame (10) so as to effect a parallel movement to the floor and to a stem (7) connected to a part (8) being engaged to the perforated frame (3) fixed to the frame (10). As illustrated to figs. 9a, 9b, 9c and 9d, it is shown the user and the vertical bar (11) in different positions.